

# THE CONDOR

A Magazine of Western  
Ornithology



Volume IV

May-June, 1902

Number 3



COOPER ORNITHOLOGICAL CLUB

Santa Clara, California

# CONTENTS.

	Page
Among the Sea Birds of the Oregon Coast ( <i>four plates</i> ).....	Wm. L. Finley 53
Nesting of the Prairie Falcon.....	O. W. Howard 57
Notes on a Small Collection of Birds From the Island of Maui, Hawaii.....	Richard C. McGregor 59
Unprotected Breeding Grounds ( <i>three plates</i> ).....	Vernon Bailey 62
A Study of Bird Songs, Chapter II.....	Jno. J. Williams 65
The Downy Woodpeckers of California.....	Walter K. Fisher 68
The Western Barn Swallow.....	Jos. Grinnell 71
GENERAL NEWS NOTES.....	71
Official Minutes.....	73
EDITORIAL.....	74
PUBLICATIONS REVIEWED. Summer Birds of Flathead Lake; Annotated List of the Birds of Oregon; Birds of Song and Story.....	75
COMMUNICATIONS.....	75
Publications Received.....	76

## Subscription Offers.

To Strictly new subscribers to THE CONDOR I make the following offers. Recreation subscriptions must also be new. All others may be new or renewals.

The Condor and Pacific Coast Avifauna, Nos. 1 & 2 .....	\$1.50
Condor and Recreation.....	1.35
Condor and Bird-Lore.....	1.65
“ “ Osprey .....	1.65
“ “ Auk.....	3.45
“ “ Oologist .....	1.10
“ “ Photo Era.....	1.90
“ “ The Camera.....	1.65
“ “ American Ornithology.....	1.50
“ “ Wilson Bulletin .....	1.25
“ “ Maine Ornithological Society Journal....	1.05
“ “ Birds and All Nature.....	2.10
“ “ Cosmopolitan Magazine .....	1.60
“ “ Munsey's Magazine ..	1.70
“ “ Outing .....	3.15
“ “ Forest & Stream New Subs. Only .....	3.95
“ “ Photographic Times.....	2.40

I will club CONDOR with any publications issued. Let me quote you rates.

BENJAMIN HOAG,  
Stephentown, New York.

## ANNOUNCEMENT!

Owing to the reduced supply of *Pacific Coast Avifauna No. 1.*

### “Birds of the Kotzebue Sound Region, Alaska”

ornithologists should avail themselves of the opportunity to procure this valuable paper while the supply permits. Mr. Grinnell's life histories in the work have elicited much favorable commendation, and the entire 80 pages will prove most interesting to every live ornithologist.

**Price 75c Postpaid.**

Address C. BARLOW,  
Business Manager,

Santa Clara, - - Cal.



3  
1  
0  
2  
11

# The Condor

A MAGAZINE OF WESTERN ORNITHOLOGY

Bi-Monthly Bulletin of the Cooper Ornithological Club

Vol. 4. No. 3.

Santa Clara, Cal., May-June, 1902.

\$1.00 a Year

## Among the Sea Birds of the Oregon Coast.

BY WILLIAM L. FINLEY.

ABOUT forty miles south of the mouth of the Columbia River and two miles out from the entrance of Netarts Bay are three large rocks. These are the homes of countless numbers of sea-birds and as the bird life there had never been disturbed to any

Netarts was one of interest to a bird crank because in the coast mountains we found breeding, such birds as the varied thrush, pileolated warbler, Oregon jay, Vaux swift, pileated woodpecker, western evening grosbeak and in the dwarfed shrubbery down by the



PHOTO BY H. T. BOHLMAN.

THE BIRD ROCKS AT A DISTANCE

extent we determined, if possible, to make a trip to the rocks and ascertain what species were breeding. There were four in the party including Mr. Herman T. Bohlman, who did the photographic work, and myself. The trip overland last year from Portland to

seashore we found the wren-tit. We also saw a flock of cross-bills but no sign of their nesting.

We reached the coast the last of May and spent the first two weeks of June at the sea-shore. The weather was very unsettled at that time and it was rather

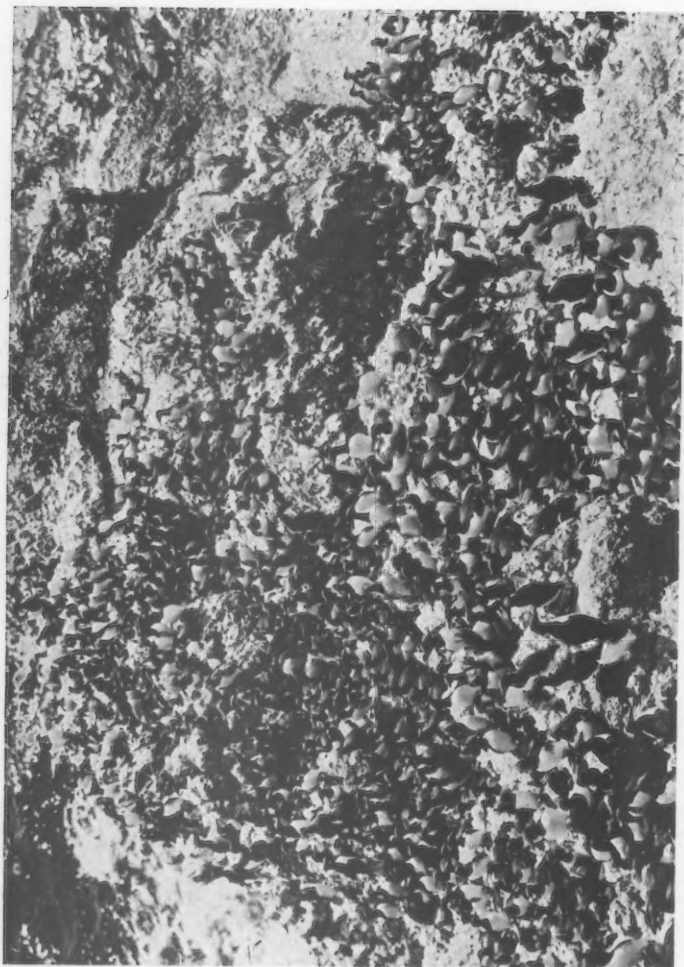


PHOTO BY BOHLMAN.

COLONY OF CALIFORNIA MURRES.

a difficult problem to reach the rocks at all. Our only method was by launching a boat in the surf and rowing out, then the equal difficulty of landing and getting to the top of the rocks. After waiting for about a week we were enabled to make two trips to the rocks. Most of our observations were made on the rock furthest out at sea known as Shag Rock, as it was the most accessible and larger than the others. We ascended one of the other rocks but found the same species breeding there.

A couple of days at such a bird metropolis is a novel experience for a

sented itself; looking down the rocky slope up which we had come we counted hundreds of nests of Brandt cormorant scattered over the entire length every few feet apart. To the north was a large slope of about 150 yards covered with a rich growth of yellow-flowered weeds, among which many gulls had placed their nests. The whole distance was perforated with the burrows of petrels and puffins. The south side was a sheer precipice and hundreds of feet below the waves dashed against the granite foundation. But their sound was lost in the ceaseless



PHOTO BY BOHLMAN.

BRANDT CORMORANTS NESTS FROM TOP OF ROCKS.

person; one who has not been among the sea-birds cannot imagine the sight that presents itself. Our time was too short to make many observations of value or to secure a good series of photographs. At every turn scenes of bird life that would have made interesting pictures presented themselves, but the difficulties in the way of success were almost as numerous.

When we reached the top-most point of Shag Rock an interesting sight pre-

cries of great numbers of sea-fowl that we had aroused by our presence. They crowded about in the air, circling over and darting past our heads, watching every move we made. It gave us a wierd feeling and we felt like getting out of the disputed territory.

Of the three species of cormorants we found on the rocks Brandt (*Phalacrocorax penicillatus*) was by far the commonest. The nests of the great colony on Shag Rock showed that they had



been there for a long time. They were built of grass on a foundation of guano, and often over a foot high. The remains of fish were scattered about in all directions. Baird cormorant (*Phalacrocorax p. resplendens*) was also found breeding along the more inaccessible places in the face of the cliff. Its smaller size and the white flank patches easily served as a distinguishing mark. The third variety was the

tail petrel (*Oceanodroma furcata*) comparatively common. We sometimes found the two species breeding in the same burrows; the latter were more inclined to live in small colonies and where one or two nests were found others were generally found near by. This petrel is larger than the Leach petrel and easily distinguished by its light slatish-gray plumage. Some of these birds were found with fresh eggs,



PHOTO BY BOHLMAN.

TUFTED PUFFIN AND NEST.

double-crested cormorant (*Phalacrocorax dilophus*); they were found on both the rocks we visited and were even more numerous than Baird cormorant.

In the burrows we found a great many tufted puffins (*Lunda cirrhata*) and Leach petrels (*Oceanodroma leucorhoa*). We managed to secure a good picture of an adult female of the former species on her nest, by carefully uncovering her burrow. Besides the Leach petrel we found the forked-

others with young. Sometimes the males were incubating and sometimes the females.

The California murre (*Uria troile californica*) and the western gull (*Larus occidentalis*) were both very common about the rocks. The murres occupied every available place. The two peaks of the second rock we climbed were occupied entirely by two great murre rookeries. A good picture was secured of a colony of murres looking down from the top of Shag Rock. The gulls were floating



about overhead continually, ever ready to pounce down on some unprotected cormorant's nest. We observed one Baird cormorant that was scared from its nest. No sooner had she gone than two gulls pounced down upon the vacated eggs, and while one of the robbers pierced two and devoured the contents, the other gull picked up the remaining egg in its bill and flew off to the adjacent rock.

There were a few pigeon guillemots (*Cephus columba*) about the rocks, but not very many were found breeding there. We noticed a number of pairs of black oyster-catchers about the rocks, but were only able to locate one nest.

The birds were flying back and forth continually uttering their whistling call.

The nest of this species that was found was on the south side of the rock, on a little slope where the fine pieces of rock had fallen down from above. The three eggs were placed without the least sign of a nest, two of them were near together while the other was about eight or ten inches below. All of the eggs were pipped and just about ready to hatch in the warm sun. The parent birds were flying about the rock but did not come near the eggs.

Berkeley, Cal.

#### Nesting of the Prairie Falcon.

BY O. W. HOWARD, LOS ANGELES, CAL.

EARLY during the spring of last year while doing some development work on one of my mining claims in the Huachuca Mountains in Cochise Co., Arizona, my attention was often attracted by the screaming of a pair of prairie falcons (*Falco mexicanus*). The sounds seemed to come from a tall cliff near the crest of a high ridge on the opposite side of the canyon in which we were working, and although the distance was too great to watch the birds I felt certain they were nesting on the cliff. When the birds had been in the vicinity for several weeks I felt sure it was time for a full set of eggs, so my partner and I made a trip up to the cliff to look for the nest. When we were within a few hundred feet of the cliff we were greeted by a sudden screaming, and on looking up saw three prairie falcons in an aerial combat.

Their flight was very swift and graceful; undoubtedly two of the birds were the pair nesting in the cliff and the other an intruder. One bird of the pair was following in close pursuit of the enemy while its mate would ascend high into the air and with folded wings drop like a falling stone and at the same time

utter a shrill scream. Just at the second one would naturally expect to see the enemy dashed to pieces, a slight turn of the tail would carry him to one side and the would-be assassin would dart harmlessly by like a flash.

We watched the performance until the birds had passed out of sight. The rest of the way to the cliff was a hard climb through the thick oak brush and over large, jagged rocks. When we reached the cliff two of the falcons had returned and were flying about in their usual manner with quick fluttering wings, occasionally uttering their peculiar scream. When we had watched the birds a few minutes one of them, presumably the female, flew to a cavity about half-way up the face of the cliff and disappeared. This I felt sure was the nest, as the male bird lit on a sharp projection of the cliff not far off. I had forty or fifty feet of small rope with me but not enough to do any good so I decided to let the matter rest until I could obtain a longer and thicker rope.

Before leaving the cliff, however, we looked around to see what else we could find; there were several turkey vultures sailing back and forth, also a golden eagle was seen and a pair of

American ravens sailed in circles high in the air. We located several nests in inaccessible places which were undoubtedly nests of ravens. When we had satisfied our curiosity we made tracks for camp and on the way found several old nests which we felt sure were those of Woodhouse jay. The nests were placed in the low scrub oak, some of them only two or three feet above the ground.

Two or three days later, April 18, I secured 100 feet of inch-and-a-quarter rope from a friend in an adjoining mining camp and, assisted by my partner, we again made our way to the cliff. On reaching the top of the ridge we made our way down to the edge of the cliff through a gorge in the solid rock, where a bunch of oak trees were growing. We tied the rope to one of these oaks and when everything was secure I slid down the rope for twenty or thirty feet to a shelf-like projection. At this point I was somewhat confused; I was standing just above the nesting cavity where the cliff hung over considerably.

About four feet to one side there was a crevice in the rock and by jerking the rope over a point above me I could let myself down the crevice. When I had lowered myself to a point opposite the nest I found I was in a dangerous position as the strain on the rope was not direct and by the least false move the rope would be likely to slip over the point of rock and set me whirling out in space 75 feet above the ground.

Had the rope been long enough to reach to the base of the cliff I should not have felt the least fear for it would have been an easy matter to slide on down. As it was, only fifteen feet of the rope hung below me. I knew I would have to climb to the top again and climbing a loose rope is not child's play for it is nearly all hand-over-hand work. While I thought of these things I had a good resting place and meantime had worked up considerable courage. Just above the nesting cavity was

a hole through the solid rock, leading downward into the cavity. It was rather a risky undertaking as I made my way along the face of the cliff to this hole. I held the rope in one hand and the sharp points of rock in the other, at the same time using my feet to steady myself. I could stand in the edge of the nesting cavity and by sticking my arm down the hole mentioned, could hold on with one hand.

I could look into the cavity through the hole but could not quite see the nest. Now came another difficulty; the cave was only two feet high, of about the same width and ran back about six feet from the face of the cliff. By keeping my hand hold I could lean over just far enough to see that the nest contained eggs. Just about this time I forgot all my danger and somehow managed to squeeze into the cavity head first. The nest was about four feet from the entrance of the cavity, in a depression in the solid rock, with no nesting material except a few feathers of the old bird and small bones and hair of the smaller quadrupeds; also a number of pellets ejected by the old birds. I am certain that both birds occupy the nesting cavity at night for there was a depression in the end of the cavity which showed signs of being occupied by one of the birds.

The nest contained five eggs, rather light in color for the eggs of this species. They have a yellowish-brown appearance, the color being almost solid but somewhat darker about the larger ends. The smallest egg in the set measures  $2.03 \times 1.64$  inches and the largest  $2.13 \times 1.63$ . After making a thorough examination of the cavity I thought of getting back on top once more. I had a tin tobacco box with me which would accommodate only three of the eggs, so it was entirely useless. It was rather a difficult task in so small a place, but I managed to slip my overshirt off and after wrapping the eggs in what little cotton I had, I rolled them in my shirt.

During this whole performance I had

to keep the rope in one hand as it would otherwise have hung out several feet from the mouth of the cavity, and this of course made matters still more difficult. This was my first set of eggs for 1901 and the only one of this species I had ever taken, so I was much pleased and the thought of getting back to my partner did not worry me in the least. I placed the roll of shirt between my teeth and after twenty-five feet or so of hard climbing came to a resting place, where I took the roll of shirt in one hand and gave myself a chance to

breathe.

The rest of the way to the top was not so hard as the cliff was more broken and not quite perpendicular. My partner looked rather anxious as I scrambled over the edge of the cliff, for I had been out of his sight at least twenty minutes. He cracked a smile when I tried to tell him (without removing the roll from between my teeth) that "I got 'em," while I packed the eggs in a larger can which I had left on top of the cliff. He coiled up the rope and we were soon in camp once more.

---

#### Notes on a Small Collection of Birds From the Island of Maui, Hawaii.

RICHARD C. MCGREGOR.

**D**URING the winter of 1899 and 1900 it was my fortune to spend several months among the Hawaiian Islands and a considerable part of that time at various points on Maui. This island is the second in size of the group, being about 48 miles long by 30 miles wide and covering some 760 square miles. It appears to have been, until recently, geologically speaking, two circular islands which are now connected by a strip of low coral sand-hills, either raised from the ocean or drifted in by the wind.

East Maui rises to 10,000 feet elevation with the volcano of Haleakala, now extinct, at its top. West Maui is but little over half as high, but its sides are far more precipitous, and deeply water-worn. The sand dunes bear but scant vegetation, except where cane fields, through the all-powerful agency of artificial irrigation, have been pushed out in green patches. Save for a few doves and occasional bunches of golden plover or a wandering troupe of weaver birds there is nothing in the sand-hills of interest to the bird-man.

From near the town of Kahului, one may follow up the beautiful Iao valley into the mountains of West Maui. From the desert-like sand dunes to the deep forests of the highlands the change is remarkable. In a short distance from the beach one is confined to the road by the high, thick brush on either side. Here there are a few of our old California friends, the house finches, but nothing else. My impressions of the woods were jotted down at the time I was there and are here transcribed: "As we get up the canyon the brush thins out and trees of fair size, thirty to fifty feet high, occur in bunches. The ground is moist and one can walk absolutely noiselessly. There are no flies and no mosquitoes, and no sound except a chirping, as of some cricket. Birds are scarce. The common introduced species do not get up here."

I will not attempt to describe the plants as they are all unknown to me. Collecting was very unsatisfactory, there being but little open country and but few birds so far as I could see. A number of interesting earth-worms were taken. One species, over seven inches long, found under stones in the sandy soil was as quick as a young eel, which it greatly resembled in its movements. Some small mollusks and a shrimp inhabit the streams. Several rats were seen and a specimen shot was identified by Dr. Merriam as the common *Mus rattus* which he says

has been previously known from Hilo. Three species of lizards are fairly common on Maui.

Sea birds are almost totally absent from about the islands, a stray gull or albatross and a few flocks of noddies being the only species seen. Bird song is a scarce article on the islands, at least among native species, the greater part of the avian choir being recruited from the exotics. One author speaks of "the music of the minas, the plaintive note of the ring dove" (*Musick; Hawaii, Our New Possessions*; 1898, p. 20). On these points I must dissent. The dove supplies but an imitation of cooing and for harsh, jarring noises the vocalization of a flock of minas discounts the house sparrow and bluejay combined.

To those unfamiliar with the avifauna of the islands it is right to say that the following notes by no means fairly represent what is to be found on Maui. I have had some doubt as to their being worth printing. However, as a few of the species are but little known, I trust the older ornithologists will pardon my prolixity. I wish to express my thanks to Assistant Frank Walley Perkins of the United States Coast Survey, then commanding the U. S. S. *Pathfinder*, for his kindly interest and aid in my collecting. All measurements are in inches and hundredths. The islands are blessed with an uncommonly large number of introduced species. *Passer domesticus* is common at Honolulu but I saw it nowhere else. The most conspicuous species is the mina (*Acridotheres tristis*).

This introduced species is the most abundant bird on all the islands visited. At Kahului it was always to be seen about the streets and yards, or when not feeding large flocks were to be found in the dense shade trees about the houses. Their note is harsh and anything but entertaining to the person whose trees they frequent. The flesh of this bird is dark and is considered excellent by the natives.

The Chinese dove (*Turtur chinensis*) holds second place for abundance and is always found in flocks among the trees and bushes near the beach. In habits it is much like our mourning dove. Old nests were seen in the mimosa bushes of the lowlands. On December 27 I saw a nest and two fresh eggs. The note is easily recognized as that of a dove but is harsh compared with the soft cooing of our *Zenaidura*.

House finches (*Carpodacus m. frontalis*) were abundant wherever we landed on Maui, but were so wild as to not be obtained easily. Of five males secured but one was in the red plumage, the others having orange and yellow. The species was common at Kaunakakai on Molokai, where I found heavily incubated eggs March 25. The nests were lined with goat hair. At Hilo they were kept in cages.

An odd little weaver bird (*Munia punctata nisoria*) is common in flocks of fifteen to thirty individuals about the rice, taro and cane fields. California Quail (*Lophortyx c. vallicolus*) have been introduced on Molokai and two partridges seen on Maui were probably of this same species.

Mr. Henshaw records *Larus glaucescens* as an irregular though rare visitor to the island of Hawaii (*Auk* XVII, p. 201). An immature bird seen between Kehai and Lahaina was probably of this species. Albatross, possibly *Diomedea chinensis*, were frequently seen in the passes between Maui, Molokai and Lanai. On the ponds at Kahului were several large flocks of ducks which I took to be the Hawaiian duck (*Anous wyvilliana*), but the record is open to doubt. Many migratory species of the shore and water birds find a resting place on the various islands. The following four species belong in this class:

*Arenaria interpres*. Turnstone. Seen but once among a flock of golden plover. *Spatula clypeata*. Shoveller. This species was shot on the Kahului pond while I was there.

*Heteractitis incanus*. Wandering Tattler. Rather common along shore alone, or with the golden plover. A specimen taken near Hilo had a dextral deflection in the sternal keel, such as is often observed in heavy domestic fowls.

Locality	Date	Sex	Wing	Tail	Ex. Culmen	Nasal Groove	Middle Toe & Claw
Hilo Hawaii	1-7-1900	♂	6.48	3.05	1.46	.89	1.23
"	1-16-1900	♂	6.00*	2.96	1.48	.86	1.20

\* Wing badly worn. Both specimens are in unbarred plumage.

*Charadrius dominicus fulvus*. Pacific Golden Plover. Golden plovers were abundant among the sand dunes of the low central neck of Maui. Ordinarily they were found in pairs or fours. The stomach of one was filled with seeds and stomachs of four others contained wing cases of small coleoptera, larvae and a few small bivalve shells.

#### MEASUREMENTS OF CHARADRIUS.

Field Number	Date	Sex	Wing	Tail	Exp. Culmen	Tarsus	Middle toe with Claw
185	Dec. 15, '99	♂	6.63	2.56	.95	1.86	1.25
200	Dec. 23, '99	♀	6.28	2.16	.93	1.65	1.11
201	Dec. 25, '99	♂	6.55	2.45	.98	1.77	1.21
202	"	♂	6.70	2.47	1.00	1.75	1.26
203	"	♀	6.78	2.52	.95	1.78	1.19
204	"	♀	6.56	2.46	.95	1.68	1.23

The black-crowned night heron (*Nycticorax nycticorax naevius*) is probably resident on the island. A single example was seen on two occasions in Iao Valley. Coots (*Fulica alai*) were abundant on the ponds near Kahului. Five specimens were secured on New Year's Day.

Gallinules (*Gallinula galeata sandvicensis*) were observed in a marsh on the outskirts of Lahaina, Maui, where a male was taken Feb. 8. Colors in life: Frontal shield and bill, deep red; end of bill, green; legs, greenish-yellow except half an inch below feathers which was red like the bill; part of toes yellowish. Measurements: Wing, 6.74; tail, 2.60; bill, including shield, 1.83; tarsus, 2.37; middle toe with claw, 3.24 inches.

*Anous hawaiiensis*? Near Kahakaloa Point, about eight miles west of Kahului, a number of these birds were feeding in the breakers off the rocky shores. But few were seen over the smooth water and one of these was shot as he crossed the bow of our boat. The specimen, a male, was collected December 18. The throat was filled with small worms and the stomach contained three small fish, badly decomposed. This bird measures as follows: wing, 8.20; tail, 4.32; exposed culmen, 1.48; depth of bill at base, .28; tarsus, .80; middle toe with claw, 1.22. On March 3 one was seen about a mile from Kaunakakai. Two addled eggs were found in the recesses of the rocks on Kahoolawe but the identification is somewhat doubtful.

A single male owl (*Asio accipitrinus*) was shot in Iao Valley, December 27. The stomach was empty. Two large parasitic Diptera flew off as the bird was

picked up. The coloration is not materially different from California specimens. The wing measures 11.25 and the tail 5.15 inches.

*Chlorodrepanis wilsoni* (Rothschild).

*Himatione chloris* Wilson. Proc Zool. Soc. 1889. p. 447 (portion).

*Himatione wilsoni* Rothschild. Bull. Brit. Orn. Club. i, p. xlii, (1883). Wilson and Evans. Aves Hawaiensis. desc. and pl. July, 1896.

*Chlorodrepanis wilsoni* Wilson and Evans. Aves Hawaiensis. p. xxi (introduction).

ROTHSCHILD, Bds. of Laysan. p. 137, pl. LIX, fig. 3.

The bird of West Maui is undoubtedly separable from *virens* of Hawaii. The coloration of *wilsoni* is much the lighter and the dimensions are different, the tail especially being longer and the tarsus shorter in *wilsoni*. The characterizations in Wilson and Evans' work are far from satisfactory. The measurements being given in inches and tenths are scarcely of value in this day of fine discrimination among insular forms. Neither is the difference in size between male and female given, which is considerable in specimens examined by me. The following table of measurements is of two specimens (*virens*) from near Hilo, Hawaii and four (*wilsoni*) from Iao Valley, West Maui.

MEASUREMENTS OF *Chlorodrepanis* FROM HAWAII AND MAUI.

	Date	Sex	Wing	Tail	Ex. Culmen	Tarsus
<i>C. virens.</i>	1-2-99	♂	2.50	1.50	.58	.88
" "	12-24-99	♀	2.42	1.44	.52	.85
<i>C. wilsoni.</i>	12-27-99	♂	2.55	1.74	.62	.81
" "	"	♂	2.61	1.79	.62	.80
" "	12-21-99	♂	2.52	1.71	.60	.85
" "	"	♀	2.45	1.63	.54	.82

The only land bird obtained peculiar to the Hawaiian Islands was this species. Near the head of Iao valley it was found to be common, where nine specimens were secured. My field notes on it are here given: "Dec. 27, 1899. Numerous *Himatione* were seen to-day; at least many more than before. In one female the ovaries were active. One male with well developed testes has a plumage like the female. The stomach contained insect larvæ. Their call-note is very like that of our *Poliophtila*, the song being a sustained and rapid repetition of a single note, repeated five to seven times. Most of the birds were seen about thirty feet from the ground, where the color of their feathers made it a difficult matter to distinguish them from the foliage. One male was shot in the lower branches of a tree twelve feet up and another lit in the lower part of a small guava bush only two feet from the ground." They do not come below an elevation of about 900 feet. In a specimen taken Dec. 12 the testes were .34 in length. Iris, dark; feet, very dark, almost black; tip of bill and base of lower mandible, light brown; rest of bill, dark brown.

#### Unprotected Breeding Grounds.

BY VERNON BAILEY.

THE large island lakes of the Great Basin country in eastern California and Oregon, Nevada and western Utah are the most extensive and important breeding grounds of inland water birds in the United States. A glance at any good map of the region

will give some idea of the number and size of these lakes and their position in the bottoms of inclosed valleys. In most cases they are comparatively shallow, with no outlet and more or less alkaline or saline water; but the most important feature, so far as bird life is con-



cerned, is the border of tules growing along the shallow shores. In some cases where the water is nowhere more

ive din of millions of mosquitoes.

Early in July of 1899, while camped for a few days on the shore of Tule Lake, in northeastern California, I found many of the birds breeding in abundance and, late as it was, some of the species still building or laying. As I waded among the tules examining and photographing the nests I had a good chance to watch the old birds at close range and was often astonished at their boldness when the nests or young were approached.

As two or three downy young avocets bobbed awkwardly over a stubby sandbar at my feet, the old birds screamed and dove close to my head and then fluttered and wallowed on the ground in front of me, while the black-necked stilts joined them in sympathetic scolding. In striking contrast the pelicans and cormorants deserted their nests and young at the first alarm, but with apparent reason. The pelicans had been entirely driven from the peninsula where thousands had been in the habit of breeding and were feeding their



PHOTO BY VERNON BAILEY.  
COOT'S NEST, TULE LAKE, CAL.

than five or six feet deep, as in Chewaucan marsh, Oregon, and Franklin Lake, Nevada. The whole lake is a great tule marsh with here and there open strips of water.

Scattered over a region of sagebrush desert with large ranches or open stock range and few human inhabitants, until a few years ago they offered a safe breeding ground for vast numbers of ducks, pelicans, cormorants, grebes, gulls, terns, heron, stilts, avocets and other waders, while those in the lower valleys also served as winter resorts for the more northern as well as the resident species. In spring and early summer the tule borders around the lakes were noisy with the grating and squawking of yellow-headed blackbirds, the rasping of long-billed marsh wrens, cackling and calling of coots and grebes, quacking of ducks and the din and racket of harsh-voiced terns and waders all discordant, unmusical sounds but most attractive and interesting to human ears and each telling of happy bird life and busy family cares. Later in the season the tules are filled with the softer and less attract-



PHOTO BY VERNON BAILEY.  
WESTERN GREBE NEST, TULE LAKE, CAL.

young on a few little rocky islands in the lake, while under one group of trees where the cormorants nested, nearly a hundred almost full grown



young were lying where some vandals had shot them from the nests.

Three species of grebes were breeding in the lake, the pied-billed the least common, the eared the most numerous, and the western, (*Echmophorus occidentalis*) the most conspicuous of them all. Of the dozens of nests seen I could never find one with the old grebe on, although the eggs were usually warm. They were sometimes covered, sometimes bare and hastily abandoned. Those of the western grebe were easily recognized by their larger size, but in other ways did not differ from those of the eared grebe. They floated on two to four feet of water, the soggy stems

and were higher and drier than the grebes' nests. Well out from shore where the water was waist deep, a colony of Forster terns were breeding on a raft of floating tule stems, and half a mile up the side of the lake a colony of black terns had their nests on a similar raft, the rusty spotted eggs matching the old brown tule stems to perfection. A flock of about 500 Caspian terns often gathered to feed along one of the sandy beaches and then scattered out to some rocky islands where they were apparently breeding with the gulls. Ruddy ducks had their nests in the tules, half floating like those of the coots; cinnamon teal were breeding in the dry marshes; and mallards, gadwall, and shovellers were seen along shore, but no nests found.

This glimpse of the corner of one lake in the breeding season could be almost duplicated in a hundred other lakes of the region. In the past four years many thousand grebe skins have been shipped from this one lake, and the skin and plume hunting business has spread over the Great Basin country. A few years ago market hunters visited these lakes when

the young ducks were nearly full grown and the old ducks moulting and unable to fly, loading their wagons with them for the market. While the game laws have put a stop to the open wholesale slaughter of ducks out of season most of the other birds, just as worthy of protection, are left unguarded. The white pelicans have been driven from many of their breeding grounds. The most beautiful species of our grebes have been woefully thinned in numbers, and unless some protection is afforded the birds these lakes will soon be a veritable part of the desert.



PHOTO BY VERNON BAILEY.

BLACK TERN'S NEST ON TULE RAFT.

and rotten vegetation of the nest barely raising the saucer-shaped top where the eggs rested above the surface. While I was photographing a nest the old birds would sometimes come noiselessly up from below the surface of the still water and watch me with their little fiery eyes for a moment and then disappear, but they usually kept at a safe distance. A brood of the little black chicks of the eared grebe was surprised in open water and while one of the old birds hurried them into the tules the other swam boldly out to meet me.

The coots' nests were abundant but while resting in the water they were partly supported by the standing tules

## A Study of Bird Songs.

BY JNO. J. WILLIAMS

## CHAPTER II. COMMON AND SPECIAL NOTES.

BEFORE considering some of the various bird notes in detail, I will quote one or two passages from Darwin's "Descent of Man," as being specially pertinent at this point: "The sounds uttered by birds offer in several respects the nearest analogy to language, for all the members of the same species utter the same instinctive cries expressive of their emotions, and all the kinds which sing, exert their power instinctively; but the actual song and even the call-notes are learnt from their parents or foster-parents." (See chapter III.)

No one acquainted with birds will gainsay the latter part of this quotation, for incidents in which parent birds have been seen teaching their young to sing or utter their own songs or call-notes are of common occurrence, though it may be probable that young birds frequently, partially learn to repeat the various notes of their parents without the latter consciously aiding them. He also leaves the reader to infer that even though a crow's vocal organs are structurally and essentially similar to those of the nightingale, no amount of repetition or practice will teach him to sing like the latter. Further on, in chapter XIII, he says that "With birds the voice serves to express various emotions, such as distress, fear, anger, triumph or mere happiness. It is apparently sometimes used to excite terror, as in the case of the hissing noise made by some nestling birds. \* \* \* \* Some social birds apparently call to each other for aid, and as they flit from tree to tree, the flock is kept together by chirp answering chirp. During the nocturnal migrations of geese and other water fowl, sonorous clangs from the van may be heard in the darkness overhead answered by clangs in the rear. Certain cries serve as danger signals, which as the sportsman knows to his cost, are

understood by the same species and by others. The domestic cock crows and the hummingbird chirps in triumph over a defeated rival."

Generally speaking, social birds are kept together by chirp answering chirp, as he says, but the call-note of a species is not restricted to this use entirely. For instance what a common sight it is to see blackbirds, robins, goldfinches or meadowlarks congregated in trees or on meadows and each and every bird uttering a great variety of their notes or songs continuously, one trying to outdo another. Not only is this so in the mating season, but even in the midst of winter a gleam of sunlight will cause them to twitter in this way, apparently in a spirit of emulation partly, and also as a vent, I suppose, to their own buoyant spirits. Again many of us who have hunted game birds know that they have danger signals or warning notes which they use to advantage as occasion demands, and most of my study of special bird notes has been aided by studying the special notes of game birds primarily. These notes are used much more frequently by our two local species of quail than by other birds because the necessity of their use is more urgent.

A sparrow will flirt its wings and tail vigorously and make indiscriminate use of any of its common notes, on the approach of a person, disappearing quickly into some bush or hollow. With our mountain quail, (*Oreortyx p. plumiferus*) it is different. Instinctively he looks for some shelter to run to or if necessary to fly to, at the same time uttering his creaking, warning note, a rapid and nervous "cree-auk, cree-auk, cree-auk-ah" and some other inimitable chattering, and quickly the flock gets ready for flight, or strikes out on the dead run for the high timber, as is the usual case.

If you follow close after them through the brush, they can be heard calling to each other with their call-note "kow kow, kow, kow" to keep the flock fairly united in its rapid march, but oftentimes as soon as you stop to listen to locate them they are silent, save for the retreating scurry of their feet in the dead leaves and only when they are sure of their safety, will they make any real effort to gather themselves together by the use of the call note. These two examples illustrate the difference in the two types.

The first, an ordinary seed-eater, is sought by no one and knows it too, and often, more from surprise than real fear, he utters the first note that comes into his head, for I have frequently seen numbers of these birds glide quietly into their leafy shelters, leaving their comrades and mates to be surprised as they were. The quail though has learnt by experience that while there is safety in flight, still the other members of the flock must be warned of the impending danger. For all that, other species of birds have and use their danger notes, only because they are rarely as emphatic, we fail to notice them and besides these species do not need them ordinarily.

For a long time I thought that danger or other special notes were unknown to woodpeckers and in consequence was greatly surprised to hear a female Gairdner woodpecker (*Dryobates p. gairdneri*) utter a special note caused by extreme fear when pursued and almost caught by one of our smaller hawks. Another time I witnessed the death struggle of a severely wounded California woodpecker (*Melanerpes f. bairdi*), and for some time previous to its death the bird uttered the most distressing cries imaginable, which quickly drew, not one of its own species, but a ruby-crowned kinglet (*Regulus calendula*), whose anxious actions showed how thoroughly he sympathized with the stricken woodpecker. In this instance the notes uttered by the latter

were those of extreme distress but for all that the kinglet understood them and even hovered several times within a few feet of my head, as if to implore me to put the bird out of its agony.

As an illustration of the difference between the call-note and the danger signal of some of our smallest birds I will take the notes of the California bush-tit (*Psaltiriparus m. californicus*). Why these mites of birds should use a warning signal when near human beings, is beyond me, as they are practically unmolested by them at any time, yet such is the case. Here they flit incessantly, in small companies, from one bush to the next over the brush-covered hillsides, passing rapidly along usually on a straight course, completely absorbed in the search for their minute insect food and uttering a continuous chorus of fine lisping "tsit it it tsee ee ee." Frequently I have heard them coming some distance off and have placed myself in the open, close to their line of travel in order to observe their actions better. Nearer they come until they are within arm's reach and their call notes still sound as merrily as before. Suddenly one of them recognizes in me something strange and unusual. Not a move have I made and yet first one and then another gives the warning note, an imperative little "tswit-tswit-tswit," and as if by magic, they pass around me and some little distance away. Not one has flown directly away from me but for the sake of safety they have changed their course temporarily. In a minute or so their warning notes cease, they feel easier and their cheery little call-notes sound forth again as they resume their original direction through the bushes. In this case the cause of the warning note together with its effects on the flock, were self-evident, while the utility of the call-note lies in its keeping the rapidly moving flock together. Still to conclude that the call-note of a species is needed just to keep the flock united is a big step, for in seeming contradic-

tion to this conclusion, we have great aerial wanderers like the hawks and eagles who are often widely separated from their mates but who rarely utter *any* note, except when with others of their species.

In quite a few species special danger or warning notes are unknown so far as I am aware, but the birds make use of the call-note as an efficient substitute by repeating it much more rapidly. This is so with the common snowbirds and juncos for usually the call-notes "tsit" and "tsut" are scarcely noticeable although heard anywhere, but frequently on looking for their nests, I have caused them much distress, as they are extremely suspicious (oftentimes betraying their own nests by being so) and will then repeat their call-notes very rapidly but once their nest is discovered their uneasiness vanishes partially and the repetition of the call-notes is less rapid. Some other birds have besides their common and special notes, a flight note that in a way is a call-note, for it is rarely ever uttered by the species except when they are actually flying and from this constancy in its character it is possibly used intentionally by the birds as a flight call-note. The flight notes of the red-shafted flicker may be taken as a good example, although they vary somewhat in individual birds. The notes are "kruh ur rur ruh ruh" varying to "koh ur ur ruk" and the phrase is repeated once or twice fairly rapidly, during the undulating flight of the bird. Vigors wren has a call-note which is in no way peculiar but the arrangement and repetition of a common or basic note into a series of notes, may be given as typical of the call-notes of quite a large number of birds. It is "pwit pwitwit-pwit-pwit-pwitwit." The note "pwit" repeated three or four times with an equal lapse of time between each repetition, is used commonly by this species when they first wake up in the morning but occasionally the rising note, if it may be called that, is the warning note, a very harsh "bwweep-

bwweep." Why they should use this note on first waking up, I have been unable to understand. They use it commonly on the approach of human beings and in several cases I have seen other bush birds take advantage of it.

Both of our common jays have a great variety of notes and I have been unable to make much headway with my study of them, as frequently the birds are not very particular which note they use. The common call-note of the blue-fronted jay is "kuk kuk kuk kuk." Then they also have a harsher call-note "krewee" but it is not a common one. The species though, cannot be passed by without mentioning its imitation of the cry of the western red-tailed hawk, "kwee o yerh." This is so well done that as Mr. Keeler says in his "Bird Notes Afeld," "the most experienced ear will be deceived." Undoubtedly the bird makes use of it as a warning to other birds at certain times when danger is around but at other times in the spring he uses it to show off his abilities to his prospective mate. Another species that has two different call-notes is the California woodpecker, for besides his common call-note "ka rac ka" he has another commonly used that is "yea cup."

Turning now to the birds that are songless or comparatively so and whose notes may be taken in part as substitute for songs there are two birds that will fairly illustrate this class or connecting link between the true singers and those that can only utter notes. The first is the wren-tit, a bird with a very pleasing trill as its chief attraction, for its colors are of the plainest. It is hard to consider this trilling "tit tit tit ter tree ee e," not a true song but rather as a common call-note, yet such I believe is nearer the truth. It certainly partakes of the nature of a call-note, for as soon as one bird utters it, he is answered from a little distance by another and so on, but in one way is near to being a song, for as far as I have been able to observe, the male is the only one to

utter it. The second bird of this class, to demand our attention, is the spurred towhee or chewink as we used to call him. Usually he is a very quiet fellow, uttering his call-note at odd times and more frequently when you pass near him but along in the early spring when the robins begin to tune up, a new note greets the ear on a sunny morning. It is a well-modulated trill, "cherwee ee e." It really is a trilling note and a modification of the call-note "chewink" at that. Still as it is heard commonly only during the mating season and is used by the male, it can be called the song of the species. The transition from the call-note to the real

song, in this instance, reminds me of the same change annually in the notes of the western robin. Before the mating season is really upon us there comes a bright morning when the robins begin congregating in the leafless oaks to practice up their songs. They begin with their call-note "kwee kwee kuk kuk kuk kuk" and after repeating it over again and again, the warblings and twitterings of the true song are gradually added and repeated over morning after morning, until finally out from the ordinary notes is developed the perfect song, which once heard is hard to forget.

### The Downy Woodpeckers of California.

BY WALTER K. FISHER.

IT HAS been customary to refer the downy woodpeckers of California to *Dryobates pubescens gairdneri* and to *Dryobates pubescens homorus*, the latter being the rather uncommon form with pure white underparts. An examination of a large series of the so-called Gairdner woodpecker from California justifies its separation from the typical *gairdneri* of Oregon and Washington under the name *Dryobates pubescens turati*, founded on *Picus Turati* of Malherbe.<sup>1</sup>

† *Dryobates pubescens turati* (Malherbe) revived name.

WILLOW WOODPECKER.

*Picus meridionalis* Gambel (nec Swainson), *Journ. Acad. Nat. Science Philad.* I, 1847, 55, 105.

*Picus Turati* Malherbe, *Monographie des Picidees* I, 1861, 125, planche 28.

*D[ryobates] Turatii* Cabanis, *Museum Heineanum* IV, 1863, 65.

*Picus pubescens* Ridgway, *Bull. Nutt. Orn. Club* III, 1878, 67.

*Dryobates pubescens gairdnerii* Ridgway, and recent authors generally.

*Type of diagnosis*, ♂ ad., 4729 Coll. Joseph Grinnell; Pacific Grove, Monterey Co., Cal., June 15, 1901; collected by Joseph Grinnell. *Cotype of diag.* ♀ ad., 4782 coll. J. G.; Monterey, Cal., July 5, 1901; coll. by J. G.

*Subspecific characters*.—Smaller than *Dryobates pubescens gairdneri*, with smaller feet; under parts lighter; the elongated superciliary patch and rictal stripe extending over sides of neck, pure white, instead of smoky white of *gairdneri*; tertials always more or less spotted with white.

*Distribution*.—Upper Sonoran and Transition zones of California, *except*: desert ranges east of Sierra Nevada, including east slope of Sierras (?), coast region north of Mendocino County and region north of upper end of Sacramento Valley.

*Coloration*.—Adult male. Underparts and nasal tufts, smoky white; occipital patch, poppy red; extended superciliary patch, rictal stripe extending over sides of neck and median dorsal patch, pure white; wing coverts unspotted; remiges marked with about five rows of white spots; tertials spotted with white; outer two tail feathers white, with two bars of black, the third feather with outer web white; rest of plumage including malar stripe, lores and auricular patch, black. Measurements: w. 89; t. 49; external (longest) hind toe without claw 12; same with claw 16. Adult female. Similar to male but greater wing coverts sparsely spotted with white and red occipital patch wanting. Measurements of Malherbe's type: w. 87; t. 50; ext. hind toe without claw 12.

*Dryobates pubescens turati* is a southern representative of *gairdneri*, which it

<sup>1</sup> Malherbe figures and adequately describes two specimens which, he says, were killed near Monterey. There can be no doubt that he indicated the form here redescribed.

<sup>2</sup> The greater coverts especially in southern birds are often spotted with white. The type is a trifle darker than the average.



resembles in the smoky under parts and restricted areas of white on the wings, and from which it differs in its smaller size, much smaller feet, and clearer white markings of head. The present form is near true *pubescens* of the Southern States, but differs from it in having much less white on the wings, the coverts and tertials of *pubescens* being conspicuously and often heavily marked with white. The following table of measurements demonstrates the difference in size between *turati* and *gairdneri*. In the measurement of the feet, the posterior external or longest toe is taken as an index.

*turati*:

		Wing.	Tail.	Longest Toe Less Claw.	Longest Toe With Claw.
Pasadena	♂	89.	52.	13.	17.
"	♂	92.	54.	12.	16.5
"	♂	88.	55.	12.5	17.5
Sta. Barbara	♂	86.	52.	12.5	17.
Pacific Grove	♂	89.	49.	12.	16.
Big Trees	♂	88.	54.	13.	17.
Palo Alto	♂	91.	54.	13.5	18.
Pasadena	♀	88.	50.	12.5	16.
"	♀	92.	54.	13.	16.5
Sta. Barbara	♀	88.	51.	13.	16.
Monterey	♀	89.	48.	12.5	16.
Pacific Grove	♀	89.	49.	12.	16.
Palo Alto	♀	92.	54.	13.	16.
"	♀	89.	55.	12.5	16.5
Average, 7 ♂ ♂ and 7 ♀ ♀		90.	52.1	12.64	16.57

*gairdneri*:

Average, 6 ♂ ♂ and 4 ♀ ♀	96.1	60.	14.25	19.55
--------------------------	------	-----	-------	-------

The willow woodpecker in a typical form breeds from Los Angeles and San Bernardino counties north in the coast ranges to San Francisco Bay, and along the west slope of the Sierra Nevada at least to Yuba County. Intergradation with *gairdneri* occurs over the coast region north of San Francisco Bay and in the mountains at the head of the Sacramento Valley. In California typical *gairdneri* has been taken at Crescent City, and at Hornbrook, Siskiyou Co. Specimens from Mt. Shasta, Ft. Crook and Horse Cr., Siskiyou Mts, while not typical are near *gairdneri*. In winter these northern intermediate forms are likely to be taken farther south.

In the National Museum collection are four birds from Quincy, Kernville and Ft. Tejon, which closely resemble the race of *pubescens* from the Rocky Mts. All are winter specimens and wanderers west of their breeding range. While they are close to the Batchelder woodpecker, they average smaller. On the other hand they differ from both *turati* and *gairdneri* in having pure white underparts. In 1863 Cabanis<sup>1</sup> described *Dryobates homorus* from "California," designating a bird with pure white underparts. Mr. Ridgway<sup>2</sup> had this fact in mind when he applied the name *homorus* to the Rocky Mt. race described by Mr. Batchelder<sup>3</sup> as *oreocus*. In 1852, or eleven years before Cabanis described *homorus*, Hartlaub<sup>4</sup> published a description of *Picus leucurus* from the Rocky Mountains saying that the form stood near *gairdneri* but had a wholly white tail. The white tail un-

<sup>1</sup> Mus. Hein. IV, 1863: 65—"D[ryobates] homorus Nob. \* \* \* Grosser als der typische nördlicher *D. Gairdneri* (Audub.), mit grossen deutlichern weissen Flecken auf den Deckfedern und Tertiarschwingen und mit rein weisslicher Unterseite (italics mine). \* \* \* (Californien)."

<sup>2</sup> Man. N. Am. Bds. 2d ed. 1896, 597. A. O. U. Comm., Auk XIV 1897, 126.

<sup>3</sup> Auk VI 1889, 253.

<sup>4</sup> Ueber einige neue oder wenige bekannte Vogel America's. Aus brieflichen Mittheilungen des Herzogs Paul Wilhelm von Württemberg mitgetheilt und mit Anmerkungen versehen von Dr. G. Hartlaub. Naumannia II, part 2, 1852, 55. "*Picus leucurus*, Herz. v. Würtemb. Steht dem *Gairdneri* Audub. nahe. 6 Zoll lang mit ganz weissem Schwanz. Rocky Mountains. 1830' (Jedenfalls unbeschrieben, H.)"

doubtedly refers to the unmarked white outer tail feathers of a considerable percent of the specimens from the northern Rocky Mts. (Montana). This character gives the under side of the tail a wholly white aspect. According to Malherbe the specimen was not seen by Hartlaub (he publishing Prince Paul of Wurtemberg's MS. description) but was then (1863) in Wurtemberg's collection at Morgentheim. Consequently it seems reasonable to call the Rocky Mt. race *Dryobates pubescens leucurus* (Hartlaub). As the meager material at hand does not justify the separation of the very closely related California birds on the strength of their slightly smaller size, the name will apply to them also. At some future time it may become expedient to separate the white-bellied California form under Cabanis's name *homorus*.

The following is a synopsis of our western races of the downy woodpecker.

a. Under parts pure white.

b. White markings more extended; remiges heavily spotted and tertials barred with white; wing coverts conspicuously spotted with same. *Geog. dist.* Alaska, northern British America, south along the mountains of British Columbia and Alberta to southern British America.

+ *Dryobates pubescens nelsoni* Oberholser, Nelson Downy Woodpecker.

bb. Wings not heavily spotted, and tertials not barred; wing coverts rather sparsely spotted, the lesser not at all. *Geog. dist.* Rocky Mt. region from northern boundary of U. S. south into New Mexico and west through Great Basin to desert ranges of California, and east slope of middle and southern Sierra Nevada; west in migration to Fort Tejon, Cal.

*Dryobates pubescens leucurus* (Hartlaub), Batchelder Woodpecker.

*Picus leucurus* "Herz. v. Wurtemberg" Hartlaub, *Naumannia* II, pt. 2, 1852, 55.

*D. [ryobates] homorus* Cabanis, *Museum Heineanum* IV, 1863, 65.

*Dryobates pubescens oreæus* Batchelder, *Auk* VI, 1899, 253.

*Dryobates pubescens homorus* Ridgway, *Man. N. Am. Bds.* 2d ed. 1896, 597. A. O. U. Comm., *Auk* XIV, 1897, 126.

aa. Under parts smoky, not pure, white.

b. Larger and darker; breast brownish smoky, suffusing white of sides of head and back; tertials seldom spotted; feet large. *Geog. dist.* Coast region, from B. C. (lat. 55°) south through western Washington and Oregon to northwestern California. *Dryobates pubescens gairdneri* (Audubon), Gairdner Woodpecker.

bb. Smaller and lighter, the breast averaging lighter; white of rictal stripe, sides of neck, superciliary patch, and median stripe of back pure (except in intermediates); tertials always spotted with white; feet small. *Geog. dist.* California, except: desert ranges and eastern slope of Sierra Nevada, coast region north of Marin Co., and region north of upper end of Sacramento Valley. + *Dryobates pubescens turati* (Malherbe) Nobis, Willow Woodpecker.

List of localities from which specimens have been examined; starred (\*) localities are breeding records. *D. p. gairdneri*. CALIFORNIA: Crescent City\*, Hornbrook\*; OREGON: Columbia R., Fort Klamath\*, McCoy, Polk Co., Newport. WASHINGTON: Shoalwater Bay, Seattle; B. C.: Babine, Victoria\*. *D. p. turati*; CALIFORNIA: Big Trees\*, Calaveras Co., El Monte, Marysville, Monterey\*, Nevada City\*, Pacific Grove\*, Palo Alto\*, Pasadena\*, Red Bluff, Sacramento Valley, San Jose, Santa Barbara\*, Saticoy, Yuba Co., Volcano.

*Intermediates between turati and gairdneri*. CALIFORNIA: Baird\*, Ft. Crook, Mendocino Co.\*, Mt. Lassen\*, Mt. Shasta\* (close to *gairdneri*), Nicasio\*, Siskiyou Mts. (close to *gairdneri*), Mt. St. Helena\*.

*D. p. leucurus*. CALIFORNIA: Ft. Tejon, Kernville, Quincy; NEVADA: Upper Humboldt Valley; COLORADO: Fort Gastland\*; WYOMING: Ft. Bridger\*, Laramie R.\*, sources of Cheyenne; MONTANA: Bitter Root Valley, Ft. Keogh\*, Ft. Custer, Hillsdale Gallatin Co.\*, Mussel Shell\*, Taylor Fork Gallatin Co.\*

For the use of specimens I am much indebted to Mr. Joseph Grinnell, Mr. Robert Ridgway and Dr. C. Hart Merriam, and for advice and criticism to Dr. A. K. Fisher and Mr. Harry C. Oberholser.



## The Western Barn Swallow

BY JOSEPH GRINNELL.

† *Hirundo erythrogastra palmeri* new name.

*Hirundo horreorum* BAIRD, Pac. R. R. Rep. IX, 1858, 308, part (notes large size of specimen from Sacramento); BAIRD, Rev. Am. Bds., May 1865, 294, part (attention called to large size of specimens from Fort Rae and New Mexico).

*Hirundo erythrogastra* COUES, Bds. Col. Val., 1878, 407, part (synonymy).

*Chelidon erythrogastra* NELSON, Rep. Nat. Hist. Coll. Alaska, 1887, 197 (Gmelin's name thought to apply to the Barn Swallow because only this species has been found at Unalaska).

*Hirundo erythrogastra unalaschkensis* (not the *Hirundo unalaschkensis* of Gmelin, which seems to be not now identifiable) W. PALMER, Fur Seals & Fur Seal Ids. N. Pac., Pt. III, 1899, 422 (characterization of an Alaskan race: large size, and great extent of white markings on tail); ALLEN, Auk XVIII, April 1901, 176 (republication of description, with critical remarks); BISHOP, N. Am. Fauna No. 19, Oct. 1900, 87 (deep coloration of Alaskan specimens noted).

*Hirundo erythrogaster* GRINNELL, CONDOR III, Jan. 1901, 23 (critical: Alaskan specimens stated to not differ from "U. S. specimens" [= skins from California]).

SUBSP. CHAR.—Similar to *Hirundo erythrogastra erythrogastra* of Eastern North America, but colors beneath deeper and the frontal chestnut band broader and darker; wing and tail somewhat longer and bill smaller.

TYPE—♂ ad.; No. 5094, Coll. J. Grinnell; Amaknak Id., Unalaska Harbor, Alaska; June 23, 1900; Collected by R. C. McGregor.

MEASUREMENTS OF TYPE—Wing, 122 mm; tail, 101; from tip of shortest tail feather to tip of longest (that is, "forking"), 48; culmen, 6.5; bill from nostril, 5.5.

COLORATION OF TYPE—Foreneck, rich hazel; rest of lower parts including under wing and tail coverts, uniform cinnamon-rufous; forehead, deep chestnut, forming a band 8 mm. wide abruptly defined against the metallic marine blue of rest of upper surface; wings and tail blackish glossed with greenish; inner webs of outer five tail feathers, each marked with an oblique white spot, the outer one being the largest and following the white shaft distally to within 40 mm. of its tip.

RANGE—Western North America, summering from southern California north to Kotzebue Sound, Alaska; west to Unalaska and east to and including the Rocky Mountains.

REMARKS—The form here characterized exhibits a significant tendency toward the *Hirundo tytlteri* JERDON of Kamtschatka (See STEJNEGER, Bull. 29, U. S. N. M., 1885, 269). This tendency reaches its extreme in examples from southwestern Alaska. Perhaps continuity in the range of a stock form of Barn Swallows once existed by the way of the Aleutian, Copper and Behring Islands to Kamtschatka. Divergence of migration routes may have caused specific separation of the two initial races. *Hirundo tytlteri* winters in Southern Asia (India, Burmah, etc.) while *H. e. palmeri* passes south on the American side to Central America and beyond.

*Hirundo erythrogastra palmeri* is named for William Palmer of Washington, whose paper on the "Avifauna of the Pribilof Islands" is a model of painstaking work.

## GENERAL NEWS NOTES.

Wm. H. Kobbe of San Francisco is taking a course in forestry at the Biltmore (N. C.) Forest School.

W. E. Loucks, a well known ornithologist of Peoria, Ills. has been spending the spring months in Southern California.

Mr. Joseph Mailliard of San Geronimo is rusticated at Santa Barbara during the spring months, where he will collect locally.

W. Otto Emerson writes us of a rufous-crowned sparrow captured by his cat in his garden at Haywards, Cal. on March 17, 1902.

Mr. T. E. Slevin who has been located at Tucson, Ariz. for several months past is now in Mexico, gathering in specimens for his private collection.

John Lewis Childs of Floral Park, N. Y., prominently known from his extensive ornithological museum, spent a portion of April in California.

Malcolm P. Anderson leaves in June for the Stickeen River region of Alaska where he will collect through the summer in the interests of the American Museum of Natural History of New York.

Mr. John M. Willard of Oakland announces that he will conduct a small party of boys interested in nature study to the Sierras for a six weeks' outing. Mr. Willard's enthusiasm and love of the mountains will serve to insure for his students a splendid trip.

C. Abbott Davis has issued an interesting pamphlet entitled "Instructions for Collecting and Mounting Insects and a Check-List of the Coleoptera of the State of Rhode Island." The paper consists of 47 pages, is well printed and contains numerous figures.

The eleventh session of the Hopkins Seaside Laboratory of the Leland Stanford Jr., University will open June 9, 1902 at Pacific Grove and will continue six weeks. A course in General Ornithology will be given by Mr. Joseph Grinnell, which feature has heretofore proven a very popular one of the summer school.

The April number of the *Journal of the Maine Ornithological Society* contains as frontispiece a half-tone portrait of Ora W. Knight, ex-president of the Society. Editor Swain has favored us with a photograph of those in attendance at the recent annual meeting, for which we extend thanks.

The following raptorial scores for 1902 have reached this office: Wm. Steinbeck reports golden eagle  $\frac{2}{3}$  and 7-2. Chas. S. Thompson makes affidavit to  $\frac{1}{3}$ , 3-2 golden eagle, 5-2, 8-3,  $\frac{1}{4}$  Pacific horned owl and 25 sets of western redtail, while Chas R. Keyes affirms to golden eagle  $\frac{1}{2}$  and some seven sets of western redtail, all remarkably handsome in their markings.

On May 3 the Northern Division sanctioned the formation of the first Club Chapter at Oakland Cal. The intent of such chapters is to promote local bird study as well as mutual acquaintance among members of the Club members who are closely grouped as to residence. There are several other well populated points where chapters should flourish, and the result will be a firmer establishment of the Club-at-Large.

The "Albatross" expedition to the Hawaiian Islands, of which Dr. C. H. Gilbert, W. K. Fisher and John O. Snyder are members, reports briefly as follows: "We have been working in the vicinity of Molokai, Lanai and the northeast coast of Maui. The bottom is very rough and, we have experienced some difficulty in making successful dredge hauls in most localities. In spite of obstacles, however, a large amount of very interesting and valuable material is accumulating." Birds are reported as scarce.

A National Committee of the Audubon Societies of the United States was organized in New York City on April 4. The utility of the committee seems assured when we mention that Mr. William Dutcher has been elected chairman, for his vigorous work along these lines is familiar to all: It is intended that the work of this committee shall be national in its scope, since it will not deal with local matters but with those which equally affect all the societies. Mr. Dutcher hopes to create an active society in California.

Richard C. McGregor writes from Manila: "Have just returned from a five weeks' trip to the province of Bataan. Results are very satisfactory and I had a fine time. We got lots of rare things, a few of them new to Luzon and others second and third specimens of which there only existed in Museum the types. This country is full of good things. In some ways I am sorry to say that I am probably a fixture here for some years to come." Mr. McGregor's address is care of Philippine Museum, Manila, P. I.

With the beginning of its ninth volume, the *Wilson Bulletin* changes its place of publication from Berwyn, Pa. to Oberlin, O., where its former editor, Mr. Jones, assumes management. The March issue reflects numerous tasty improvements, including a new cover, coated book paper and an up-to-date magazine make-up. All these will tend to make the *Wilson Bulletin*, always heretofore excellent and meaty in contents, one of the leaders among ornithological magazines. The current issue is notable in its excellence.

Circular No. 35 of the Biological Survey has been issued under the supervision of Dr. T. S. Palmer, Assistant Chief, and is entitled "Directory of State Officials and Organizations concerned with the Protection of Birds and Game, 1902." As the title implies it furnishes a complete list of all state officials and state organizations interested in game or bird protection, besides a list of the Audubon societies. The directory has been brought down to date and should be in the hands of those who are interested in the great protection movement.

The Delaware Valley Ornithological Club of Philadelphia presents its Proceedings for 1901 in the form of a royal octavo publication, handsomely printed, and entitled *Cassinia*, "An Annual Devoted to the Ornithology of Pennsylvania and New Jersey". *Cassinia* is a continuation of the Club's previous and less sumptuous "Abstract of Proceedings," while its increased size permits the publication of a greater volume of material. The initial number presents an excellent half-tone plate of John Cassin as frontispiece and its sixty pages are replete with interesting papers read before the Club.

Oologists will be interested to learn that the major part of the Jean Bell collection, recently purchased by Mr. John Lewis Childs, has been sold to Mr. C. W. Crandall of Woodside, N. Y. We are informed that Mr. Childs preserves but two typical sets of each species, and after filling any existing gaps from the Bell collection, it was sold as above stated. Mr. Crandall informs us that his cabinets now hold not less than 50,000 eggs, among which may be mentioned white-tailed kite, 42 sets; prairie falcon, 21 sets, golden eagle, 33 sets; California vulture, 3 sets; duck hawk, 24 sets; sharp-shinned hawk, 112 sets etc.

### Official Minutes Southern Division.

#### MARCH.

The Division met March 28 with Roth Reynolds, Vice President Leland presiding and ten active members present. Wm. G. Renwick of Claremont, W. C. Hanna of Colton, Clarence S. Sharp of Escondido, Thomas Brown of Los Angeles and Edward Howard of Los Angeles were elected to active membership. The name of Robert F. Jones of Santa Monica was proposed for active membership. A communication from O. W. Howard regarding the condition of a number of caged birds in a certain bird store was read and the secretary instructed to investigate and if necessary to report the matter to the health officer. Mr. C. S. Sharp of Escondido presented a paper on the Swainson hawk, and a discussion followed which brought out many interesting facts. The grebes were selected for study at the next meeting.

#### APRIL.

The Southern Division met again with Mr. Reynolds on April 26, President Daggett presiding and nine active members present. Robt. F. Jones of Santa Monica was elected to active membership. "Grebes" was the subject of the evening and a paper on the American eared grebe was presented by Howard Robertson. The meeting adjourned to meet next with Mr. Daggett in Pasadena on Friday evening, May 30, when the loon family will be considered.

HOWARD ROBERTSON, Div. Secretary.

### Official Minute Northern Division.

#### MAY.

The Division met with Mr. Chas. R. Keyes at Berkeley on May 3, President Grinnell pre-

siding and fourteen active members present. Mr. H. W. Fowler was present as a visitor. The programme of the evening was first presented, consisting of the following papers: "The American Ornithologists' Union of 1840-45" by H. W. Fowler; "The Dusky Horned Owl in Captivity" by H. R. Taylor; "Nesting Habits of the Wren-Tit" by D. A. Cohen; "Vocal Powers of the Yellow-billed Magpie" by H. R. Noack. Mr. H. C. Johnson of American Fork, Utah had kindly forwarded for the inspection of the club a set of five eggs with nest and male parent of Clarke nutcracker, taken in Utah Co., Utah April 8. The set is extremely unusual as to number of eggs. Mr. Barlow exhibited a set of four eggs and nest of the rufous-crowned sparrow collected near San Jose on April 27.

The following were elected to active membership in the Club:—Lee Nims, Pacific Grove; Hubert O. Jenkins, Stanford; Miss Alice M. Jenkins, Stanford; Frederick W. Kobbe, San Francisco and Geo H. Ready, Santa Cruz. Mr. Grinnell as a committee reported the collection of funds necessary to the publication of a "Check-List of California Birds" to be issued as *Pacific Coast Avifauna No. 3* during June, the publication being now in press. Four applications for active membership were read and filed as follows:—Henry F. Bailey, Santa Cruz; Miss Anna Head, Berkeley; Mrs. Ruby G. Bell, Stanford and Miss M. E. Skillings, Alameda.

A letter signed by five active members residing in and about Oakland, Cal., petitioning the Club to grant the necessary permission for the formation of a chapter as provided by the constitution, was read, and being in proper form the request was, on motion, granted. The Club adjourned to meet at San Jose, July 5.

C. BARLOW, Div. Secretary.

# THE CONDOR.

Bulletin of the

## COOPER ORNITHOLOGICAL CLUB OF CALIFORNIA.

Published bi-monthly at Santa Clara, Cal., in the interests  
and as Official Organ of the Club.

CHESTER BARLOW, Santa Clara, Cal.,  
Editor and Business Manager.  
WALTER K. FISHER, Stanford University Cal.  
HOWARD ROBERTSON, Box 55, Sta. A., Los Angeles.  
Associates.

Subscription, (in advance) - - - One Dollar a Year.  
Single Copies, - - - - - 25 Cents.  
Six Copies or more of one issue, - 12½ Cents Each.  
Foreign Subscription, - - - - - \$1.25.  
Free to Honorary Members and to Active Members not  
in arrears for dues.

Advertising rates will be sent on application.

Advertisements and subscriptions should be sent to the  
Business Managers.

Exchanges should be sent to the Editor-in-Chief.

Entered at the Santa Clara Post-office as second class  
matter.

This issue of The Condor was mailed May. 15.

### EDITORIAL.

#### Boom the State Meeting of 1903!

In our last issue the note entitled "The Passing of the Great Blue Heron at Santa Monica" should have been credited to Mr. W. Lee Chambers instead of to "W. Lee."

With the exception of the January number, THE CONDOR will be mailed to subscribers untrimmed. While we feel that this feature in a measure mars the appearance of the magazine, it will be appreciated when the files are bound and the ultimate disposal of the issues is after all most essential.

With the advent of summer our ornithologists will soon be afield, engaged in their annual study of birds. The present season among Club members should result in the production of many excellent monographs. It should be remembered that a paper treating of a single species is apt to be of greater value than one dealing too largely in generalities.

The series of articles on the 'Bird Clubs of America' at present being published in *Bird Lore* have a peculiar interest to ornithologists, especially in view of the publication of photographs of representative meetings of the various clubs. Thus far groups of the Nuttall and Delaware Valley Ornithological clubs have appeared. In the absence of personal acquaintance, nothing is so potent in promoting a friendly interest among ornithologists as the camera. THE CONDOR has at times contemplated the publication of a Cooper Club group, but in view of the coming State Meeting in

1903, we modestly defer the pleasure until July-August 1903!

Before the next issue of THE CONDOR shall have appeared the Cooper Ornithological Club will have celebrated its ninth year of existence. June 22 will serve as a reminder to the four then young ornithologists whom Fate made the Club's founders nine years ago, and will recall an enthusiastic organization meeting which had reached its consummation after much planning, lacking none of that bold assurance which older heads might, scarcely have essayed to assume. That the movement steadily gathered strength the Club and THE CONDOR are living proof. Aside from this comment it is unlikely that the coming 22nd of June will be accorded further attention. Nor is it necessary.

But with another brief twelve-months will occur the Club's tenth anniversary,—an occasion which the ornithologists of California should make memorable. The initial steps have already been taken for the holding of a State Meeting, and the coming year will afford none too much time to perfect arrangements for an enthusiastic and profitable gathering of bird men. The suggestions set forth in this journal some months ago have been acted upon and a State Committee composed of the following gentlemen has already been appointed:—W. Otto Emerson (Chairman), Jno. O. Snyder, J. Eugene Law, Frank S. Daggett and C. Barlow.

There will rest with the committee the arrangement of a mass of details necessary to the success of the congress. A place of meeting must first be agreed upon, and should be so arranged as to secure the largest possible attendance of members. The selection of San Francisco would appear logical, but the matter will rest with the committee in charge. A two or three days' session should be arranged for, and the attendance of "outside," or distant members should be urged. From the records of the Northern Division for a year past it appears that 54 individual members were in attendance at the six meetings, some being present at all the meetings while others attended but a single session. This denotes that many journeyed considerable distances to attend the meetings. It would therefore seem a conservative estimate to expect the presence of one-third of the entire Club membership at the State Meeting. Should this prove true, California would witness an intensely enthusiastic gathering of bird men, which would perforce result in a large measure of mutual benefit and enjoyment to those so present.

Having decided on the place of meeting, a live programme committee should be established to work unceasingly for the coming year. Features of current and special interest should be introduced, and a programme of economic ornithology should be arranged to cover an afternoon. From the large active membership of the Club a string of meritorious papers, covering a wide range of subjects, could be secured. In view of the propitious conditions, the State Meeting of 1903 should and will be made memorable!

## PUBLICATIONS REVIEWED.

SUMMER BIRDS OF FLATHEAD LAKE, by P. M. Silloway (= University of Montana Bull., No. 3, Biol. Ser. No. 1, [Dec. ?] 1901).

This is a neatly prepared paper of 83 pages and 16 plates, treating at more or less length of 128 species. The plates are from photos, mostly of nests and eggs, though these are detached, that is, not *in situ*. The accounts relate chiefly to the nesting habits and local distribution of each bird. These are of much general interest for in this section of Montana eastern species are found breeding in close proximity to typically western forms; for example, red-eyed vireo and Audubon warbler, common kingbird and Arkansas kingbird, catbird and Louisiana tanager. We are particularly interested in the extended biographical accounts of the willow thrush, olive-backed thrush, Macgillivray warbler, Audubon warbler, cedar waxwing and Wright flycatcher. The present publication also contains much valuable data for the student of geographical distribution. The known ranges of several forms, such as *Icteria virens longicauda*, seem to be materially extended. As the author clearly states, the records, tentatively made of *Larus occidentalis*, *Melospiza georgiana* and *Coccyzus erythrophthalmus* are open to question, and should not be accepted until their identity is confirmed. We wish that all authors of similar productions would take as much care as is evidenced in Mr. Silloway's paper. "Summer Birds of Flathead Lake" is a credit to its author and to the University of Montana.—J. G.

ANNOTATED LIST OF THE BIRDS OF OREGON, A. R. Woodcock (= Bull. No. 68, Ore. Agr. Exp. Sta., Jan. 1902).

It was with pleasant anticipation that we began the perusal of this 100-page list. For Oregon is of extreme interest ornithologically, and a succinct resume' of the birds of that State would be a valuable basis for the working faunist, as well as a guide to local observers. But the present paper is a disappointment. It bristles with indefinite statements, questionable records and obvious misidentifications. We cannot help but doubt the records of such species as *Anas penelope* ("common in spring!"), *Gelochetidon nilotica* ("a very common fall migrant"), *Puffinus stricklandi*, *Megascops flammeola* ("saw one specimen"), *Hematopus palliatus*, *Spizella pusilla arenacea*, and others, besides fully twenty-five misapplied trinomials.

Previous literature relevant to Oregon birds is apparently ignored, only Belding's "Land Birds of the Pacific District," and Bendire's "Life Histories" being quoted. The major part of the information seems to have been de-

rived from local observers some of whom are evidently inexperienced. True, the author disclaims any responsibility for the statements of his correspondents. But still we believe it the duty of compilers to exert intelligent discrimination, at the same time showing utmost conservatism. We cannot see that the present list is of any scientific value whatever. It will certainly serve to increase the drudgery of the synonymist and swell his hypothetical lists. It still remains therefore for someone to prepare an authoritative checklist of Oregon birds.—J. G.

BIRDS OF SONG AND STORY | by | Elizabeth and Joseph Grinnell | Authors of "Our Feathered Friends" | [poem, 7 lines] | [vignette] | Chicago | A. W. Mumford, Publisher | 1901 [December].

To the amateur bird-student and to those who have a taste for literature rather than dry compilations of observations the present book will prove of pleasing interest. The authors have apparently endeavored to sugar-coat a fair amount of information with enough of word-painting and romance to insure its reception by a class of readers which far outnumber real bird-students. The scaffolding of facts presented is true to nature, and in places even the hardened "bird-crank" is thrilled by the vividness of portrayal. The chapter on "The Meadow Lark" happened in particular to impress the present reviewer with its vein of pathos and homely allusion. Among the sixteen chapters contained in the book others which we can especially recommend are on "The Mocking Bird," "The Orioles," "Sparrows and Sparrows," "At Nesting Time," and "The Tanager People." Although evidently intended for more or less juvenile readers, *Birds of Song and Story* will be read with interest by people of maturer taste as well. The sixteen full-page illustrations (of the birds treated in the text) are done in the well-known three-color process.—C. B.

## COMMUNICATIONS.

Editor THE CONDOR:

In your March issue there appears a letter from Dr. R. W. Shufeldt, in regard to the pterylography of hummingbirds, which seems to me to demand a word of reply. Dr. Shufeldt asks why I inquire whether "hummingbirds are cypseloid or caprimulgoid." If he had read the first paragraph of my paper in *Science* carefully, he would not have to be informed that it was because Professor D'Arcy W. Thompson says they are more caprimulgoid than cypseloid in their pteryloses, while I hold as does Dr. Shufeldt that they are not at all caprimulgoid.

As to whether they are cypseloid or not, Dr.



Shufeldt and I differ radically on a question of fact, namely whether the upper cervical apertures occur in the swifts. I am certain that that it does, in spite of Nitzsch's antiquated and inaccurate figure of the pterylosis of *Cypselus apus*, upon which Dr. Shufeldt lays so much stress. As for the differences between Nitzsch's and Lucas' figures of the hummingbird pterylosis, I think Dr. Shufeldt is most decidedly straining at a gnat! I see no essential differences between the two figures. If there is a "picarian bee" in my "thinking-cap" as Dr. Shufeldt suggests, it is unknown to me for I never believed in the "Picariae" at all, but I am sure that as far as the pterylosis is concerned hummingbirds are emphatically cypseloid, Dr. Shufeldt to the contrary notwithstanding.

Very truly yours,

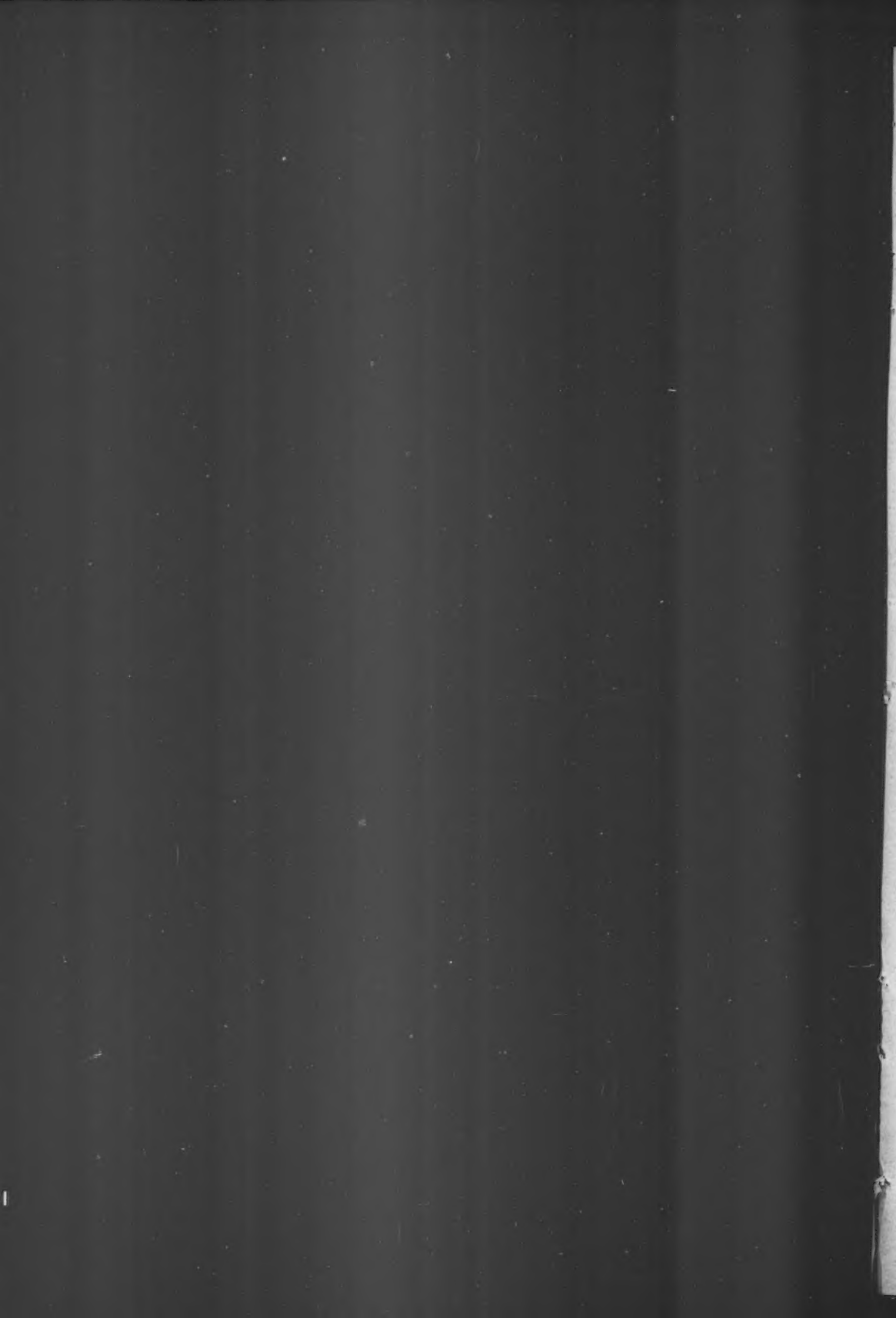
HUBERT LYMAN CLARK.

## PUBLICATIONS RECEIVED.

- COLE, LEON J. Suggestions for a Method of Studying the Migration of Birds. (Repr. 3rd Rept. Mich. Acad. Sci. 1901, pp. 67-70).
- HOWE, REGINALD H. JR., A New Subspecies of *Passerculus sandwichensis*. (Cont. to N. A. Orn. Vol. I, pp. 1-2, Oct. 14, 1901).
- HOWE, REGINALD H. JR., A New Faunal Index to the 'O. and O.', part I. (Cont. to N. A. Orn. Vol. I., pp. 3-4, Dec. 24, 1901).
- HOWE, REGINALD H. JR., A Review of Prof. Geo. H. Perkins' 'A Preliminary List of the Birds Found in Vermont.' (Cont. to N. A. Orn. II, pp. 5-23, Jan. 30, 1902).
- KOBBE, WM. H., The Status of Certain Supposed Species of the Genus *Larus*. (From *The Auk*, XIX, No. 1, Jan. 1902).
- OVERHOLSER, H. C., Catalogue of Hummingbirds from Ecuador and Columbia. (Proc. U. S. N. M. XXIV, pp. 309-342).
- PALMER, T. S., Legislation for the Protection of Birds Other Than Game Birds. (Bull. No. 12, revised ed., Div. Biol. Survey).
- PALMER, WILLIAM, and J. H. RILEY. Description of Three New Birds from Cuba and the Bahamas. (Proc. Biol. Soc. Wash. XV, pp. 33-34).
- RICHMOND, CHAS. M. The proper name for the Arctic Horned Owl. (Proc. Biol. Soc. Wash. XV, p. 86, Apl. 25, 1902).
- RICHMOND, CHAS. M. An early name for the northern form of *Sphyrapicus ruber*. (ibid. p. 89).
- RICHMOND, CHAS. M. *Ixoreus* should replace *Hesperocichla*. (ibid. p. 85).
- RICHMOND, CHAS. M. Two preoccupied avian genera. (ibid. p. 85).
- ROBBINS, REGINALD C., Bird-Killing as a Method in Ornithology. Privately printed. pp. 1-16.
- SHUFELDT, DR. R. W., Osteology of the Flamingoes. (Rept. Annals of Carnegie Mus. I, pp. 295-324, 1901).
- SILLOWAY, P. M., Summer Birds of Flat-head Lake. (Bull. No. 3, Univ. of Montana. pp. 1-83, 16 pll).
- WOODCOCK, A. R. Annotated List of the Birds of Oregon. (Bull. No. 68, Oreg. Agr. Exp. Sta.) Jan. 1902. pp. 1-117.
- WRIGHT, ALBERT A. Laboratory Directions for the Study of Amphioxus. (Lab. Bull. No. 11, Oberlin (O.) College).
- American Ornithology*, II Nos. 4, 5, April, May, 1902.
- Annual Report Bd. of Trustees*, Field Col. Museum. 1901.
- Auk*, The, XIX, No. 2, Apl. 1902.
- Bird-Lore*, IV, No. 2, Mch-Apl, 1902.
- Birds and Nature*, XI, Nos. 3, 4, 5. Mch. Apl., May, 1902.
- Cassinia*, (Proc. Del. Val. Orn. Club) 1901.
- Circular No. 35 Biological Survey*. Directory of State Officials and Organizations Concerned With the Protection of Game. 1902.
- Journal of Maine Orn. Society*, IV, No. 2, Apl. 1902.
- Maine Sportsman*, IX, Nos. 103, 104. Mch. Apl. 1902.
- Nature Study*, II, No. 11. Apl. 1902.
- Notes on Rhode Id. Ornithology*, III, No. 2. Apl. 1902.
- Novitates Zoologicae*, VIII, No. 5, 1901. IX, No. 1, 1902.
- Ohio Naturalist*, II, Nos. 5, 6. Mch. Apl. 1902.
- Oologist*, The, XIX, Nos. 3, 4. Mch., Apl. 1902.
- Osprey*, The, I, No. 2, 3. Feb. Mch., 1902.
- Our Animal Friends*, XXIX, Nos. 7, 8, 9. Mch. Apl. May, 1902.
- Our Dumb Animals*, XXXIV, Nos. 10, 11. Mch. Apl. 1902.
- Out West*, XVI, Nos. 3, 4, 5. Mch. Apl. May, 1902.
- Plant World*, V, Nos. 2, 3. Feb. Mch., 1902.
- Popular Science News*, XXXVI, Nos. 4, 5. Apl. May, 1902.
- Proceedings Biological Society of Washington*, XV, pp. 33-34.
- Proceedings of U. S. National Museum*, Vol. 23.
- Recreation*, XVI, Nos. 4, 5. Apl. May, 1902.
- West American Scientist*, XII, No. 11, Apl., 1902.
- Wilson Bulletin*, No. 38. Mch. 1902.







**COLLECTORS, YOUR ATTENTION** is called to my data blanks and field note-books, just out and nicely bound in imitation marble back. 100 datas in first, 200 sheets in second. Write for sample sheets and prices. Satisfaction guaranteed. **GEO. W. MORSE**, box 230, Ashley, Ind.

**FOR SALE.** A few fine sets of eggs of Lucy Warbler. **R. D. LUSK**, Redington, Ariz.

**WANTED.** A copy of Vol. 1, No. 3 of *Bulletin of the Cooper Ornithological Club*. Will pay a good price. Address **ALBERT LANO**, Aitkin, Minn.

**EXCHANGE.** I want to correspond with parties who collect magpies and quail (California, mountain, scaled etc.) in exchange for eggs or other specimens. **DELOS HATCH**, Oakfield, Wis.

**WANTED.** *Nidologist*, Vol. 1, Nos. 4 and 6. Have the exchange Vol. 1, Nos. 7 to 12. Also other bird publications and rare sets of eggs. **H. J. KOFAHL**, Austin, Tex.

**MAGAZINES FOR EXCHANGE.** *Ornithologist and Oologist*, Vol. 12 complete; Vol. 13 complete; Vol. 14, Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12; Vol. 15, Nos. 1, 2, 3, 6, 7, 8,

9, 10, 11, Vol. 16, Nos. 1, 2, 3, 5, 6, 7, 8, 10, 11 and 12. *Osprey*, Vol. 1, Nos. 3, 5, 7, 9, 10, 11 and 12; Vol. 11, Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10; Vol. III, Nos. 1, 2, 3, 4, 5, 6 and 7. First-class sets desired in exchange. **TROUP D. FERRY**, 417 Taylor St., E. Savannah, Ga.

**NOTICE.** Fifty cents each for *Osprey* Vol. 1, No. 2 and *Nidologist* Vol. 1, No. 2. I want two copies of each. Send securely wrapped and receive money by return mail. **ALBERT F. GANIER**, Bowmar Ave., Vicksburg, Miss.

#### **FOR SALE, CHEAP FOR CASH.**

My entire collection of eggs and duplicates, either as a whole or in parcels. 388 species, 2600 specimens. Chiefly collected in Utah, Texas, Pennsylvania and Illinois.

**L. E. RICKSECKER,**

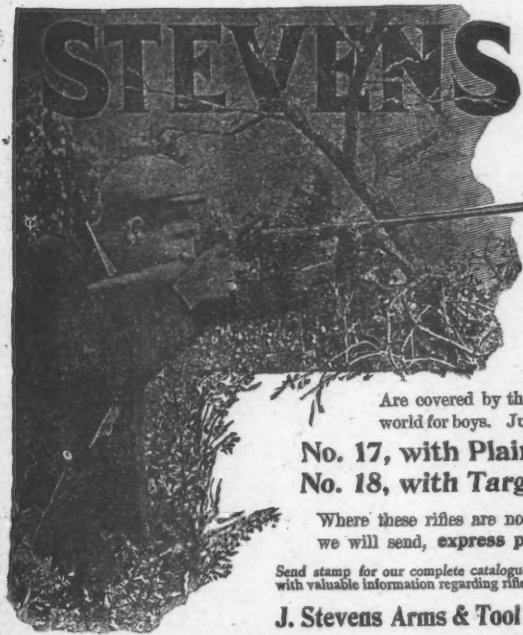
2t. Santa Rosa, Cal.

#### **How to Collect and Mount Insects.**

Just the book for Libraries and Nature Students. 48 pages illustrated. Postpaid for 50 cts. (silver). 3t.

**C. ABBOTT DAVIS,**

1131 Elmwood Ave., Providence, R. I.



# STEVENS RIFLES

All Stevens Rifles  
are guaranteed to be

**Safe, Solid, Accurate.**

The line is most complete, embracing pistols, heavy rifles for target and hunting purposes, light pocket rifles with skeleton stocks.

**The "Favorite" RIFLES**

Are covered by the same guarantee. The best in the world for boys. Just as reliable and advisable for men.

**No. 17, with Plain Open Sights, \$6.00**

**No. 18, with Target Sights, 8.50**

Where these rifles are not carried in stock by dealers we will send, **express prepaid**, on receipt of price.

Send stamp for our complete catalogue, containing description of our entire line, with valuable information regarding rifles, ammunition, etc.

**J. Stevens Arms & Tool Co., Box 3333 Chicopee Falls, Mass.**

## Are You Interested IN PLANTS

As Well as in Birds and Animals?

Then you ought to read **THE PLANT WORLD**, the only popular journal of its kind in America. The fifth volume, beginning in January, 1902, will have a series of articles on the prominent botanical institutions of the country, illustrated with beautiful half-tones from photographs. Possibly, too, you will be interested in the eight-page supplement, which takes up in proper sequence and discusses from month to month all the families of flowering plants, telling their distinguishing characters, economic uses, and where they are found. It is copiously illustrated with drawings and photographs made expressly for us.

**THE PLANT WORLD** is an original magazine, edited for the botanist and plant lover alike, but technical matter is excluded. Everyone is welcome to tell his or her experiences in its columns.

If you knew you could secure a sample for a 1-cent stamp wouldn't you send for it? And after you had read it and found that it only cost \$1.00 a year wouldn't you feel sorry because you hadn't subscribed earlier?

We should like to tell you about some other publications, but **THE PLANT WORLD** will do that if you will let it make your acquaintance.

**THE PLANT WORLD CO.**

P. O. Box 334.

WASHINGTON, D. C.

## Maine's Bird Magazine!

Have you seen the

JOURNAL OF THE

MAINE ORNITHOLOGICAL SOCIETY?

It is a quarterly journal of Maine ornithology; "Bird protection, bird study, the spread of the knowledge thus gained, these are our objects."

Volume IV, beginning with the January 1902 number, 50 cents per annum, 15 cents, per copy. Sample copy free.

J. MERTON SWAIN,

Editor & Business Manager,

WATERVILLE, MAINE.

## American Ornithology

Published monthly by Chas. K. Reed.

1.00 a year.

Fine illustrations of all BIRDS OF NORTH AMERICA. The January number

contains illustrations

from life of California

Partridge, Texas Bob-

white, Scaled Part-

ridge, Wilson's

Thrush and Chick-

adee. Also many other

fine illustrations of

our birds, including a

colored plate of the

Long-billed Curlew.

Monthly.

1.00 a year.

Single copies

10 cents.

Mention "The Condor" and send for a copy. Volume I postpaid \$1.00. We have same nicely bound in cloth \$1.50 postpaid, containing over 175 illustrations. A department for the young folks.

Address **American Ornithology,**  
WORCESTER, MASS.



## Bird-Core

IS a journal for students of birds in nature;

Among other interesting and helpful articles vol-

ume IV, 1902, will contain the following, all but

the last named of which will be illustrated: "The

Keeping of a Journal," Ernest Thompson Seton.

"The Bird Voices of New England Swamps and

Marshes," William Brewster; "In the Maine

Woods," Fannie Hardy Eckstrom; "Recollections

of Elliott Coues," D. G. Elliot and Capt. C. A.

Curtis; "The English Sparrow in England," R.

Kearton; "The Weapons of Birds," F. A. Lucas;

"The Molt of Birds," Dr. J. Dwight, Jr.; "How to

Name the Birds," Frank M. Chapman (with illus-

trations of over 50 species); articles on bird photo-

graphy by A. Radcliffe Dugmore and F. H. Her-

rick, a series of papers on "Bird Clubs in Amer-

ica" and reviews of current ornithological litera-

ture, including the contents of the magazines.

The Condor will be reviewed by Dr. T. S. Palmer.

20 CENTS A NUMBER. \$1.00 A YEAR.

**THE MACMILLAN CO.**

CRESCENT AND MULBERRY STREETS,

HARRISBURG, PA.

All subscribers to Vol. IV, beginning Feb. 1,

1902, will receive a free copy of the Dec. 1901

number containing Ernest Thompson Seton's

article on "The Recognition Marks of Birds" with

figures of 18 species of Hawks and Owls by the

author, and illustrations of 16 other species of

birds.

